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## (54) OPTICAL SYSTEM FOR PROJECTION TYPE DISPLAY DEVICE

(57)Abstract:

PURPOSE: To obtain excellent image performance when a display image on a display device is enlarged by a projection lens and projected on a screen by composing the projection lens of five lens groups which have positive refracting power and making it eccentric with a reference optical axis.

CONSTITUTION: In the optical system which makes light incident on the screen at  $60^\circ$ , the lenses are made eccentric slantingly and in parallel. The original image on the display body P forms an intermediate image I with trapezoid distortion and the intermediate image I, further, forms an intermediate image II having trapezoid distortion in the same direction through lenses 3 and 4. Then the intermediate image II is formed on the screen S through a lens 5 as an image having its trapezoid distortion canceled. The lens groups of the 1st stages of the lenses 1 and 2 and the lens groups of the 2nd stages of the lenses 3 and 4 have almost telecentric constitution on both sides and the lens 5 has almost telecentric constitution as well, so light beams are excellently matched in spite of the eccentric optical system.



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